

FIG. 1

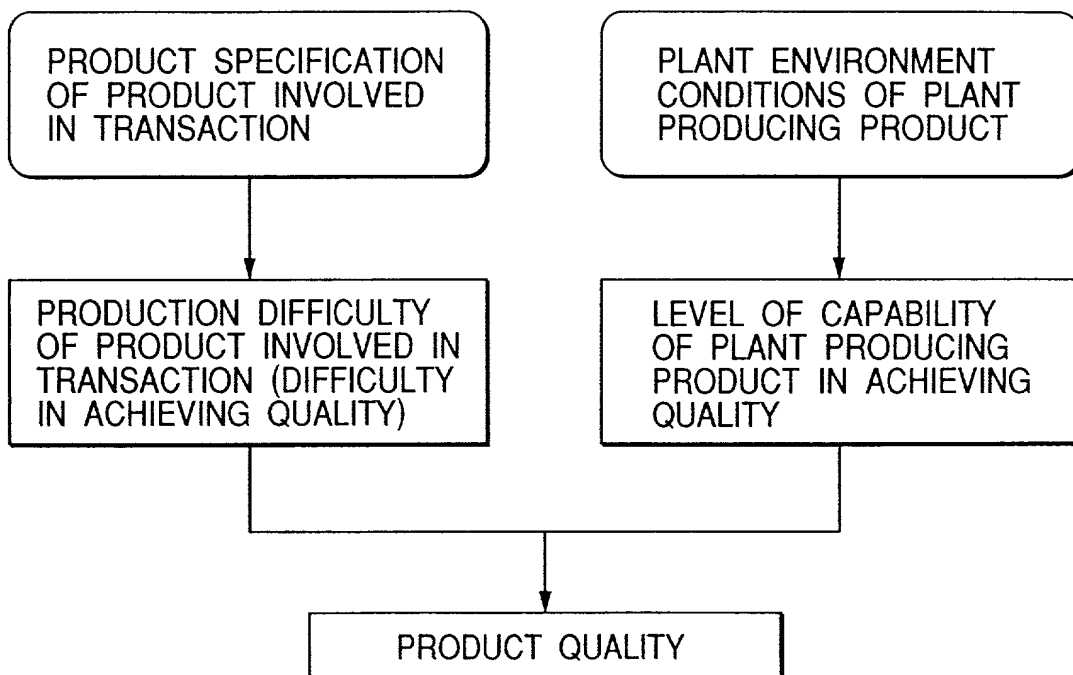


FIG. 2

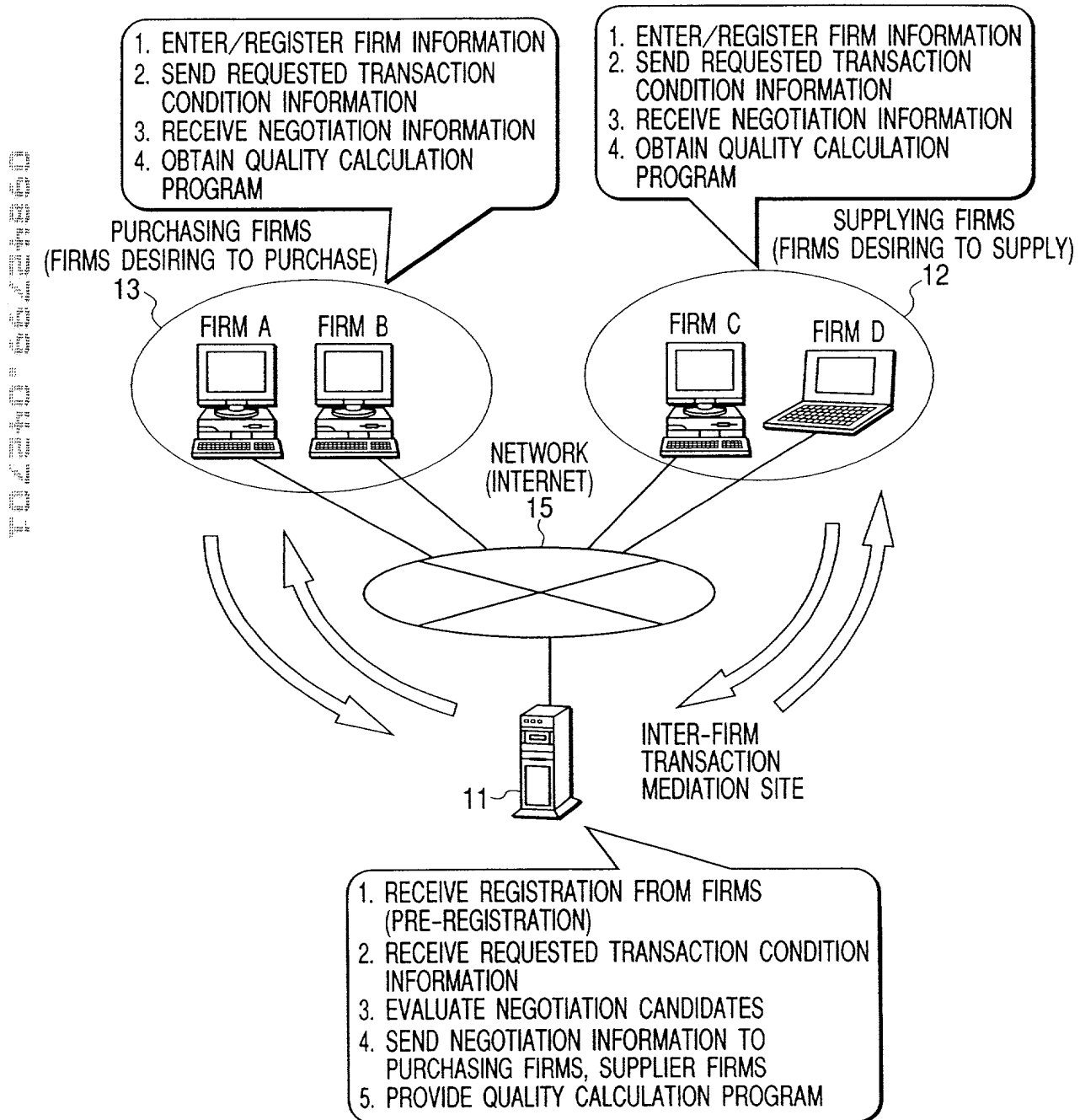


FIG. 3

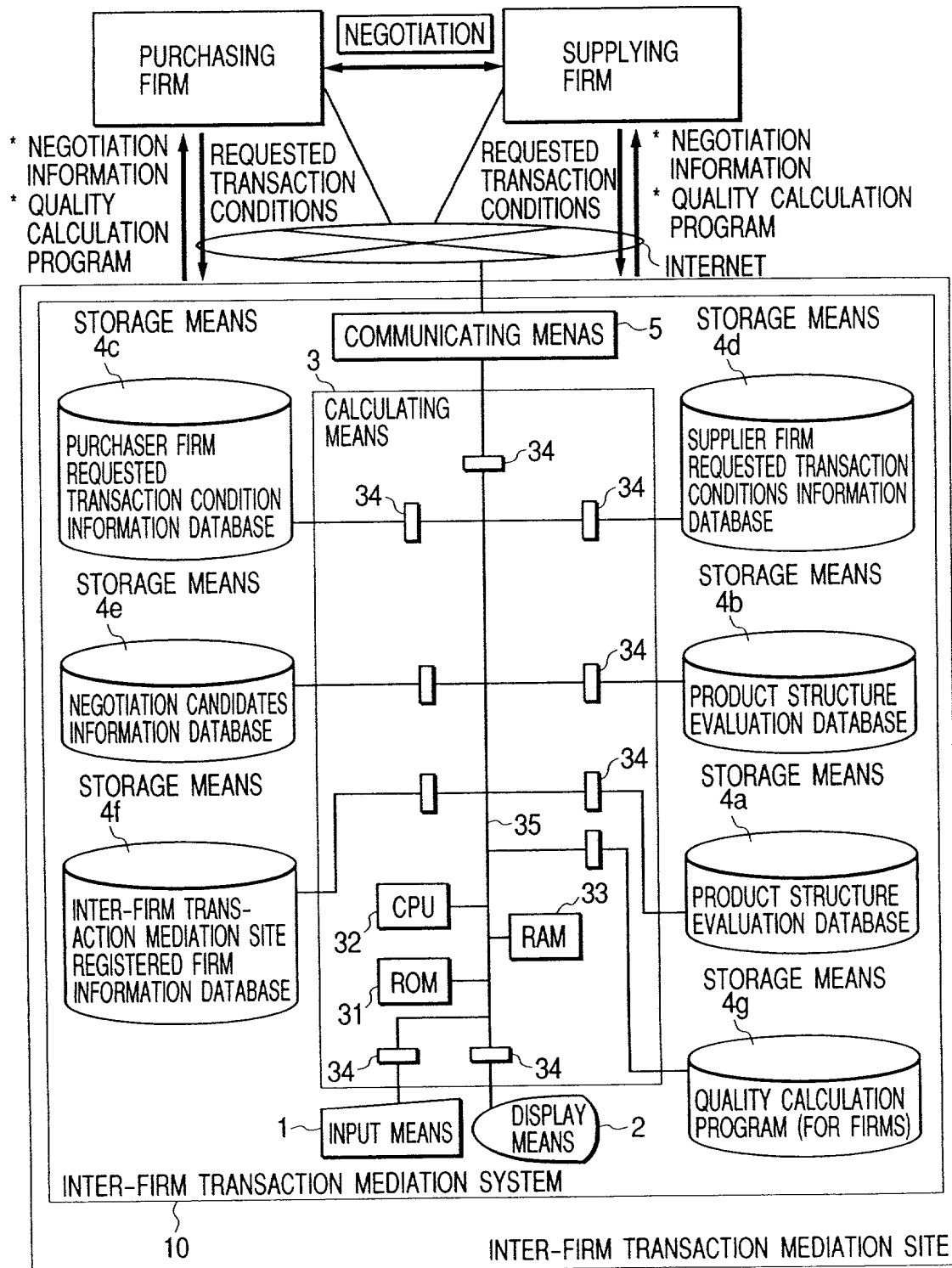


FIG. 4

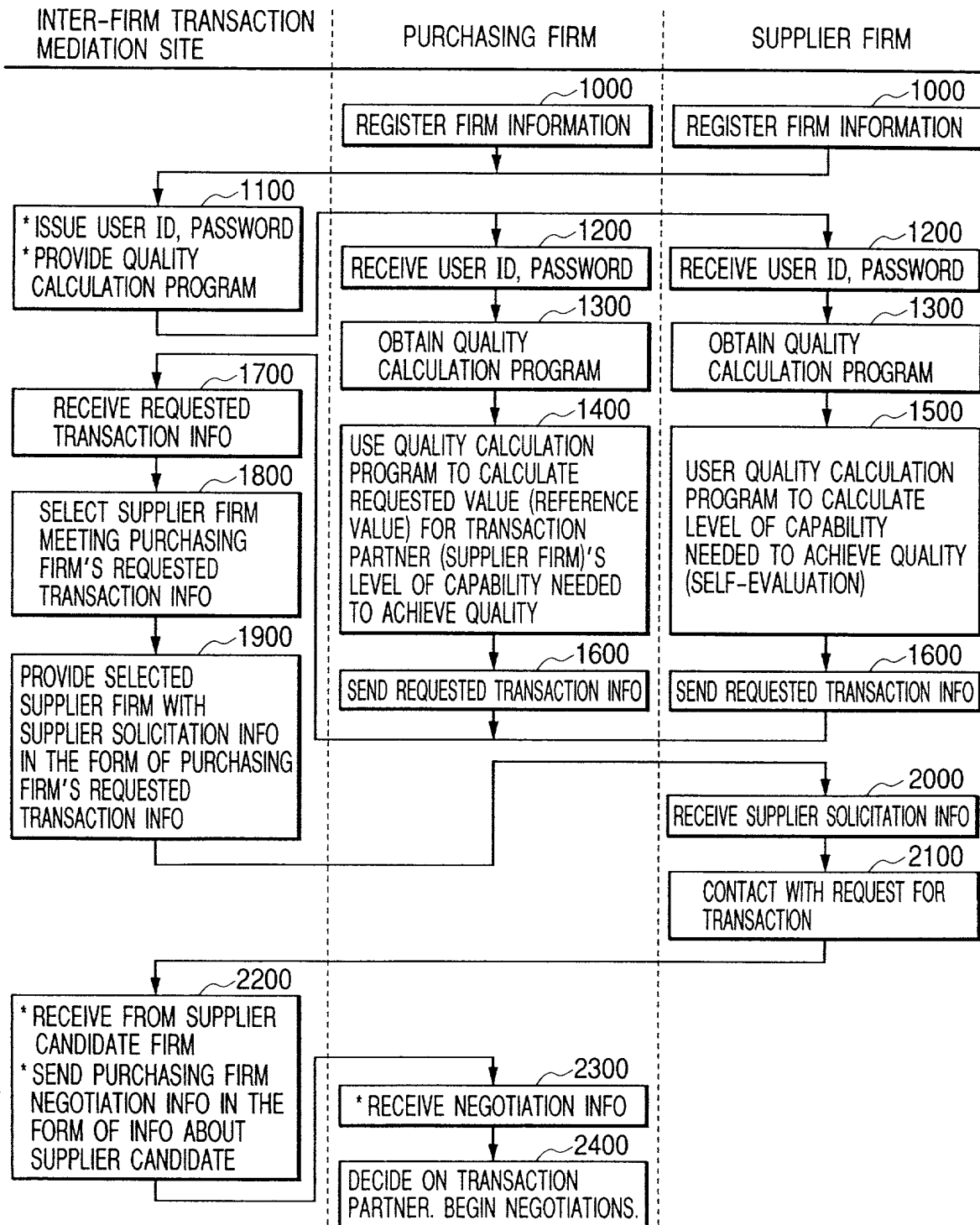


FIG. 5

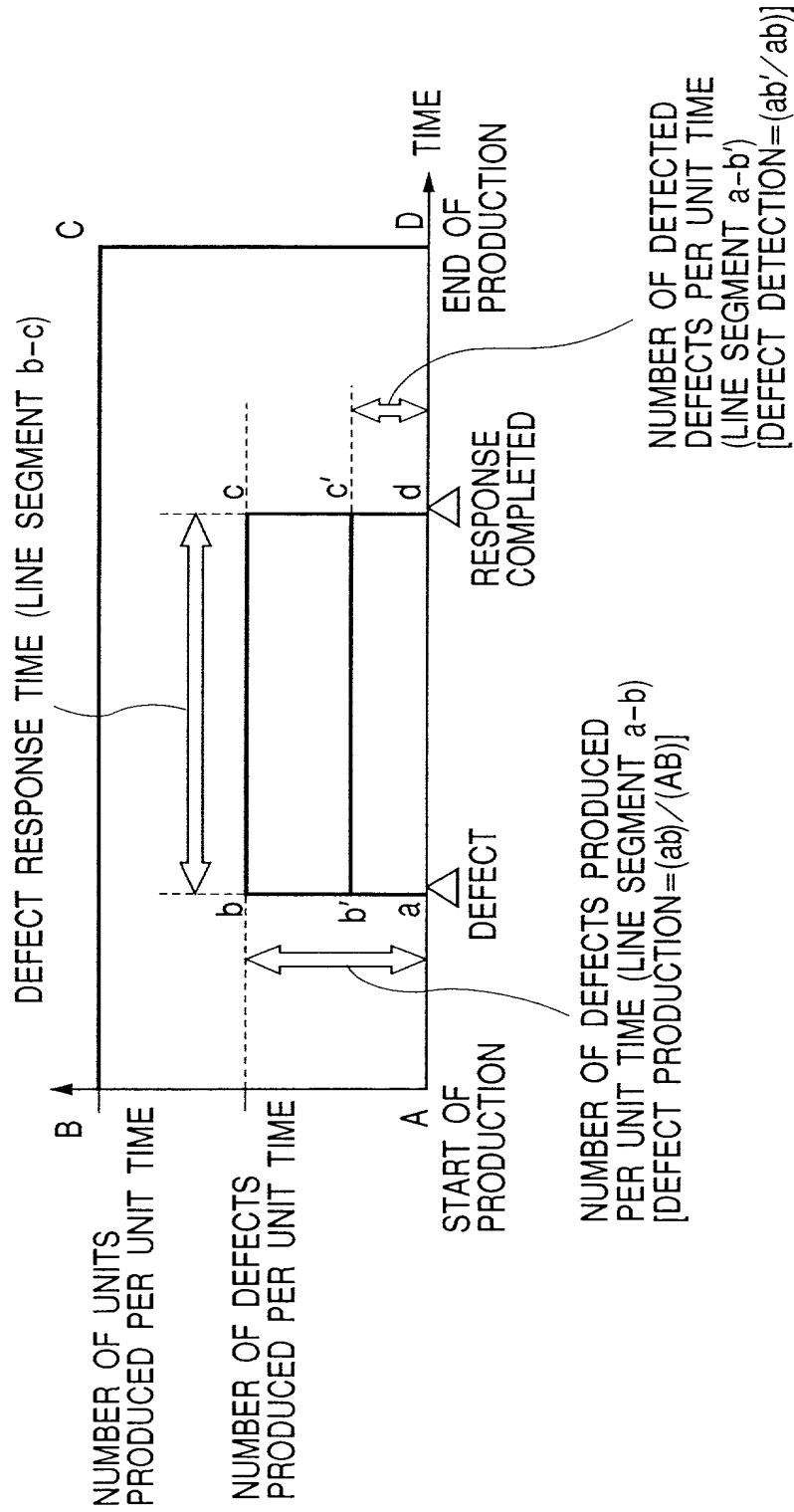


FIG. 6

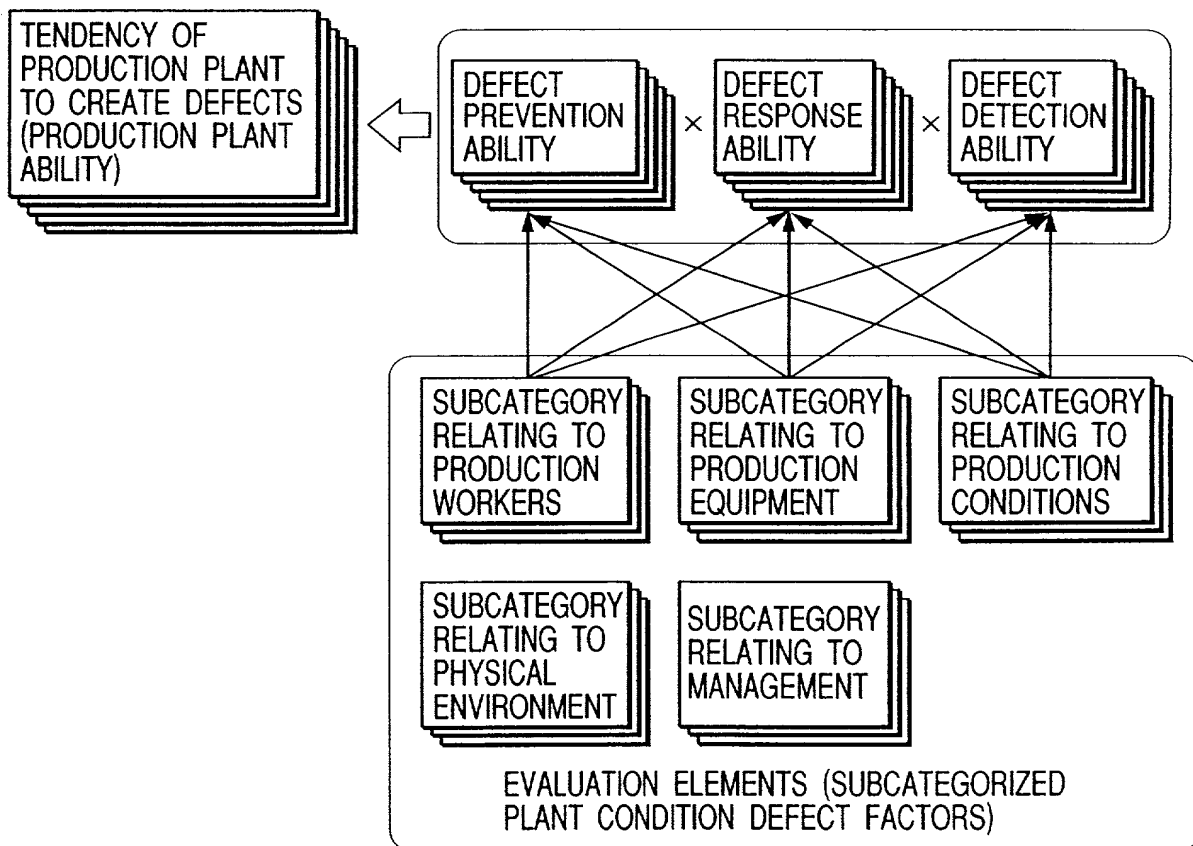


FIG. 7

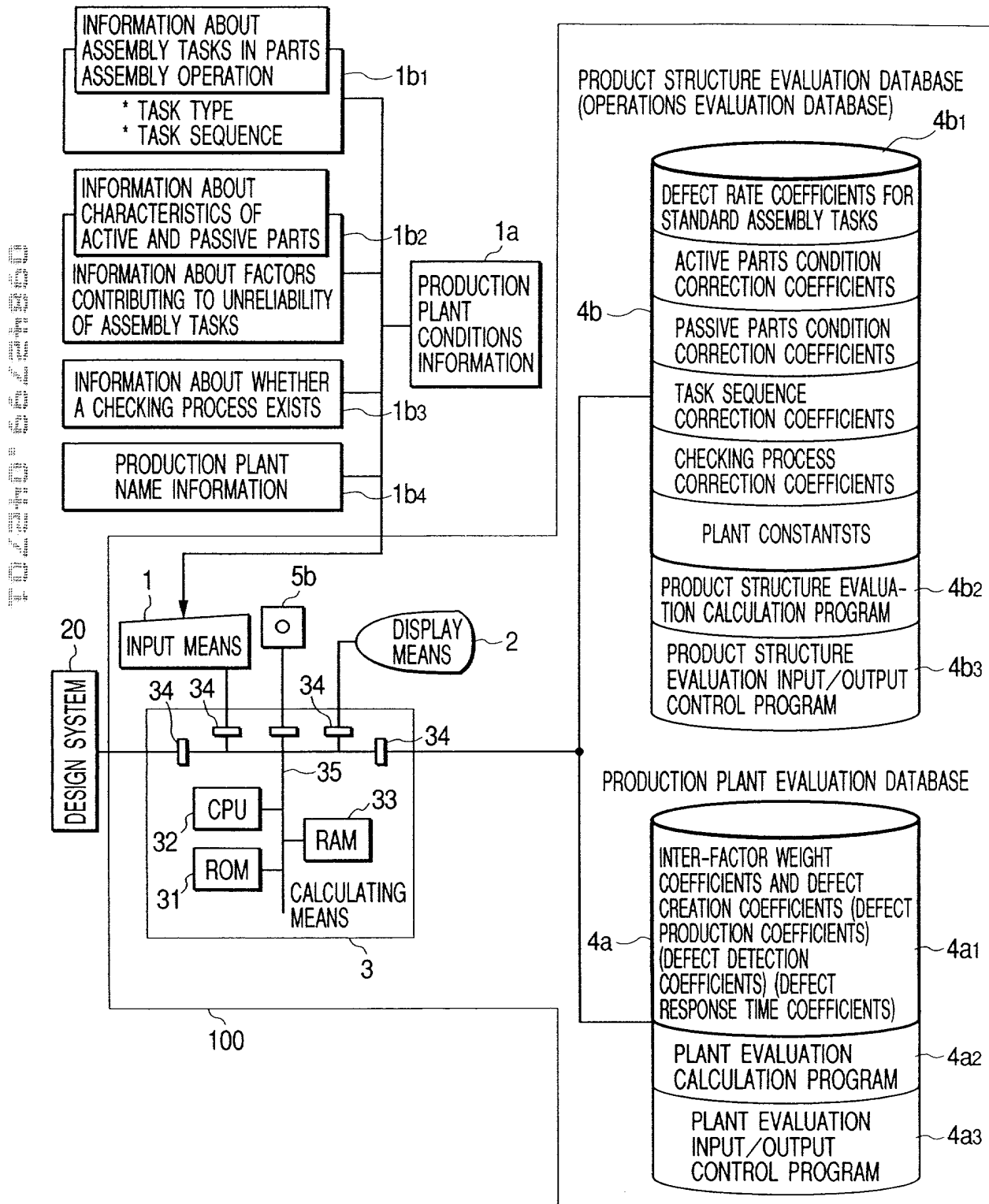


FIG. 8

FIG. 8

4b1: PRODUCTION PLANT EVALUATION DATABASE

60		61	62		63		64	65a		65b		65c	66				67	
CATEGORY	ITEM NO.	PLANT CONDITION DEFECT FACTOR	LEVEL 1 (HIGH)	LEVEL 2 (MEDIUM)	LEVEL 3 (LOW)	WEIGHT COEFF- FICIENT	DEFECT CREATION COEFFICIENT/			DEFECT RESPONSE TIME COEFFICIENT	RESPONSE ADVICE				COMMENTS			
							DEFECT PRODUCTION COEFFICIENT	DEFECT DETECTION COEFFICIENT	DEFECT COEFFICIENT		LEVEL 2		LEVEL 3		LEVEL 2	LEVEL 3		
1	1	ATTENDANCE (S)	$S \geq 97\%$	$97\% > S \geq 90\%$	$90\% > S$	2	3	1	2	ASSIGN WORKERS WITH HIGH ATTENDANCE TO KEY PROCESSES	EDUCATION FOR A VERSATILE WORKFORCE. CLARIFY GOALS & RESPONSIBILITIES.	SET UP CHECKING PROCESSES FOR KEY PROCESSES	CLARIFY INDIVID. & GROUP GOALS. ASSIGN INDIVID. & GROUP RESPONSIBILITIES.	LOW ATTENDANCE. PROCESS ORGANIZATION UNSTABLE. QUALITY CONSISTENCY DIFFICULT	LEVEL 2	LEVEL 3		
2	8	EQUIPMENT SUPERVISORS	FULLY ASSIGNED	ASSIGNED (90% OR MORE OF ALL EQUIPMENT)	ASSIGNED (LESS THAN 90% OF ALL EQUIPMENT)	1	2	2	1	ASSIGN SUPERVISORS FOR ALL EQUIPMENT	IMPLEMENT EQUIPMENT OPERATION EDUCATION AND TRAINING	ASSIGN SUPERVISORS FOR ALL EQUIP. (PRIORITY TO KEY EQUIP.)	IMPLEMENT EQUIPMENT OPERATION EDUCATION AND TRAINING	NOT ENOUGH EQUIPMENT SUPERVISORS. MAJOR EQUIPMENT RELIABILITY ISSUES.	NOT ENOUGH EQUIPMENT SUPERVISORS. POSSIBLE EQUIPMENT RELIABILITY ISSUES.	NOT ENOUGH EQUIPMENT SUPERVISORS. MAJOR EQUIPMENT RELIABILITY ISSUES.		
4	13	LIGHTING (L)	$L \geq 1000lx$	$1000lx > L \geq 600lx$	$600lx > L$	1	2	2	0	INSTALL LOCAL LIGHTING FOR CERTAIN WORK AREAS.	NEED TO RE-EXAMINE OVERALL LIGHTING (FLUORESCENT TYPE)	INSTALL LOCAL LIGHTING FOR CERTAIN WORK AREAS.	NEED TO RE-EXAMINE OVERALL LIGHTING (SYSTEM, POSITIONS, NUMBERS)	LOW LIGHTING. CERTAIN AREAS NEED LOCAL LIGHTING.	LOW LIGHTING. CERTAIN AREAS NEED LOCAL LIGHTING.	LOW LIGHTING. MUST RE-EVALUATE ALL LIGHTING.		

FIG. 9

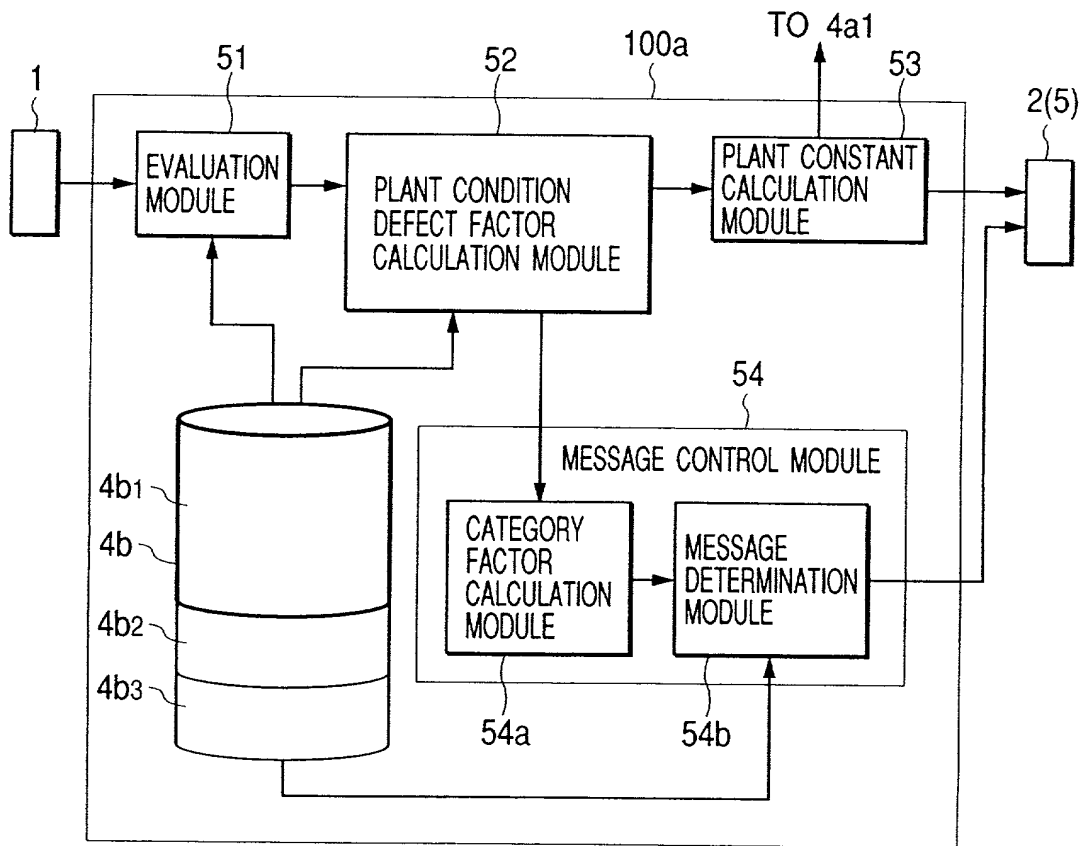


FIG. 10

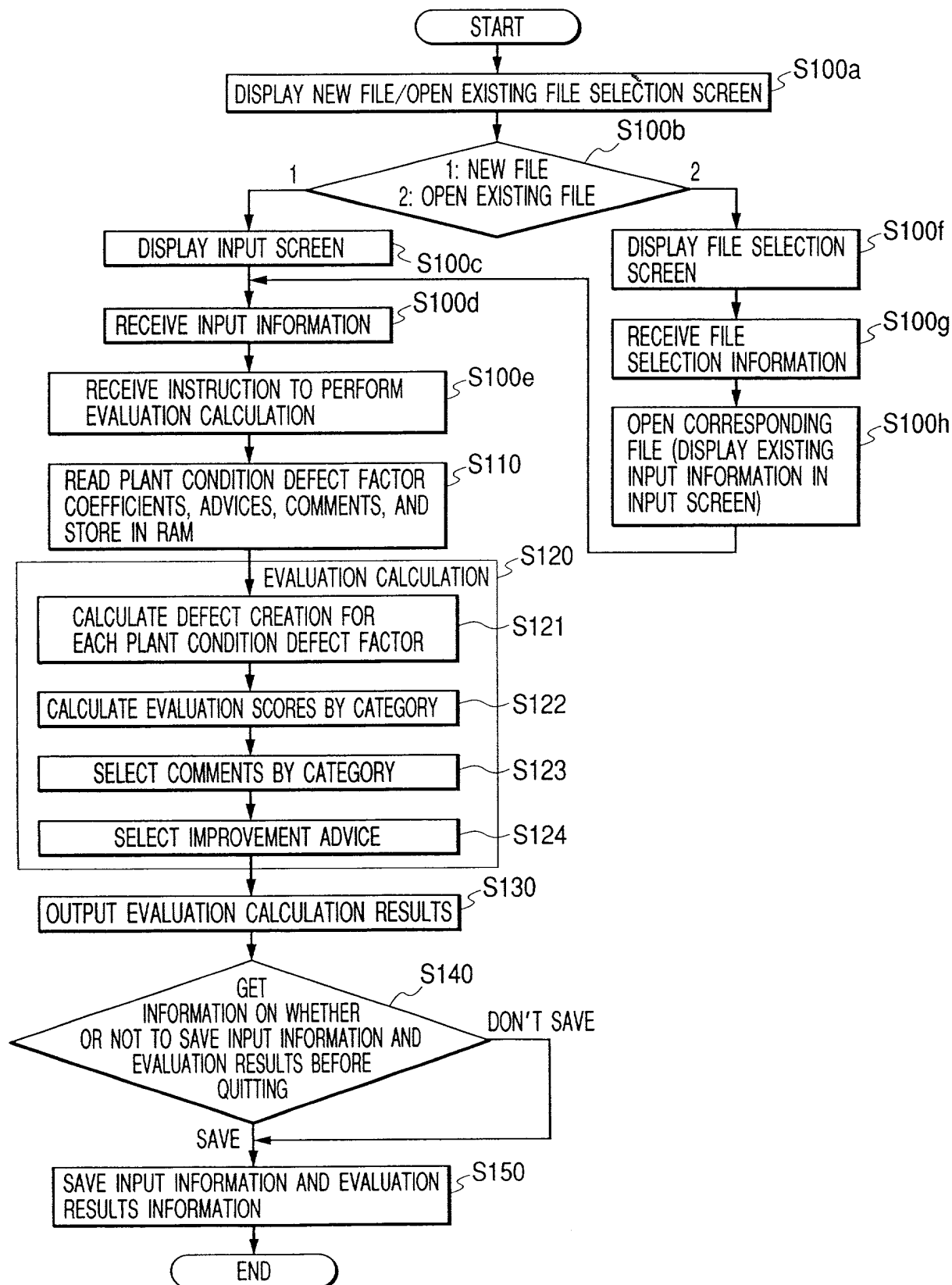


FIG. 11(a)

51

NEW FILE 51a

OPEN EXISTING FILE 51b

FIG. 11(b)

52

FILENAME

☒

OK CANCEL

FIG. 12

70

PLANT EVALUATION: PLANT CONDITIONS INPUT

71 NAME OF PLANT TO EVALUATE 71

72 PLANT CONDITIONS 61 75(62) 76 LESS THAN 97%, AT LEAST 90%

EVALUATION CATEGORY	NO.	QUESTION	75a	ANSWER	76a	76b	76c
1. WORKERS	1	ATTENDANCE	<input type="button" value="MORE INFO"/>	<input type="radio"/> 97% OR HIGHER	<input checked="" type="radio"/> LESS THAN 97%, 90% OR HIGHER	<input type="radio"/> LESS THAN 90%	
2. EQUIP- MENT	8	EQUIPMENT SUPERVISORS	<input type="button" value="MORE INFO"/>	<input type="radio"/> FULLY ASSIGNED	<input type="radio"/> 90% OR HIGHER ASSIGNED	<input checked="" type="radio"/> LESS THAN 90% ASSIGNED	
4. PHYSICAL ENVIRON- MENT	13	LIGHTING	<input type="button" value="MORE INFO"/>	<input checked="" type="radio"/> 1000 lx OR HIGHER	<input type="radio"/> LESS THAN 1000 lx, 600 lx OR HIGHER	<input type="radio"/> LESS THAN 600 lx	

FIG. 13

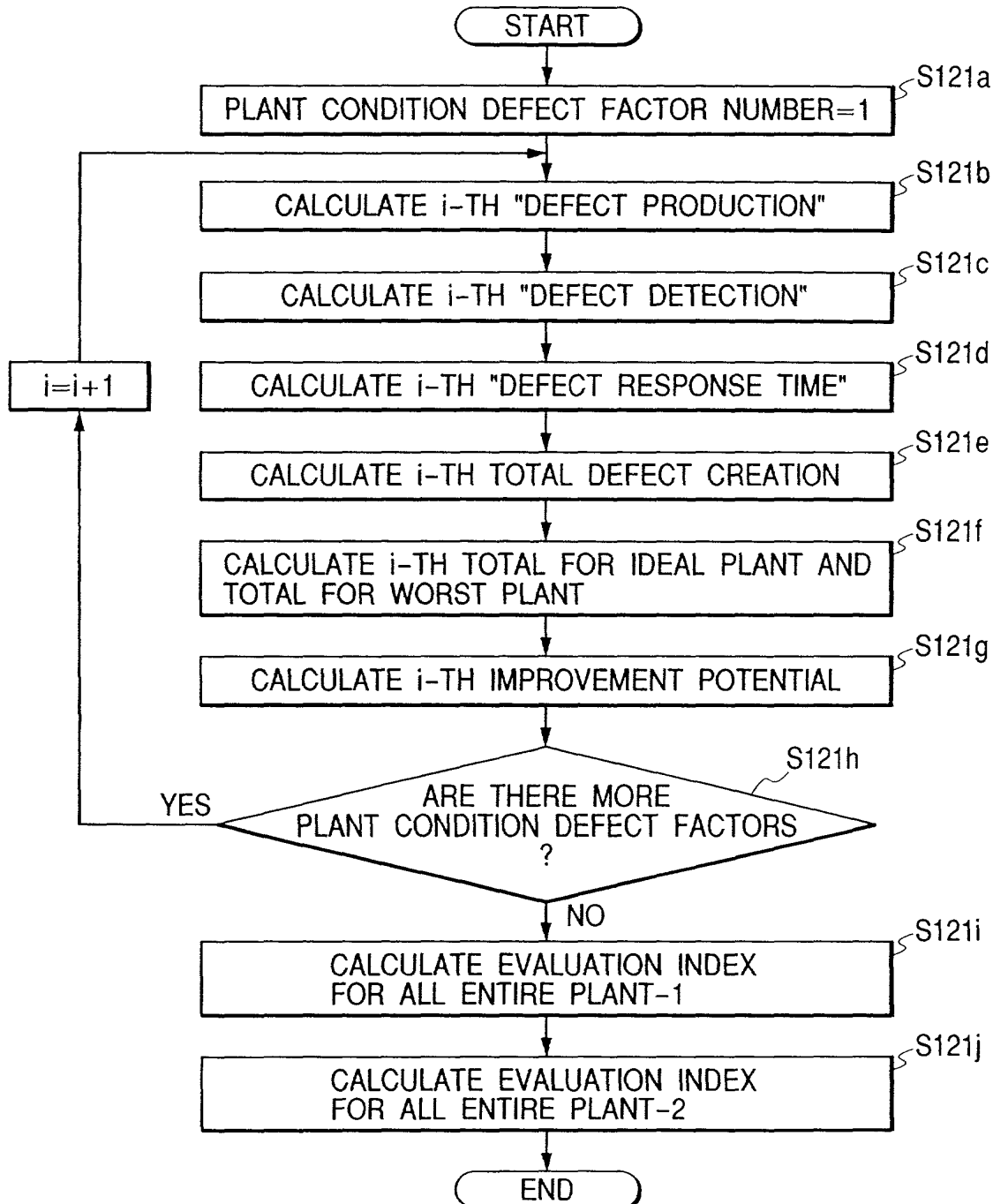


FIG. 14

60		61	76		92				93			65			65c
			92a	92b	92c	92d	92e	93a	93b	64	65a			65b	
CATEGORY	ITEM NO.	ENTERED PLANT LEVEL	DEFECT CREATION (CALCULATION) RESULTS FOR (EVALUATED PLANT)				IMPROVEMENT POTENTIAL	IDEAL PLANT DEFECT CREATION	WORST PLANT DEFECT CREATION	INTER-FACTOR WEIGHT COEFFICIENTS	DEFECT CREATION COEFFICIENTS			DEFECT RESPONSE TIME COEFFICIENTS	
			DEFECT CREATION	DEFECT DETECTION	DEFECT RESPONSE TIME	DEFECT CREATION					DEFECT CREATION COEFFICIENTS	DEFECT DETECTION COEFFICIENTS	DEFECT RESPONSE TIME COEFFICIENTS		
1	1	2	12	4	8	24	12	12	36	2	3	1	2		
2	8	1	2	2	1	5	0	5	15	1	2	2	1		
4	13	3	6	6	0	12	8	4	12	1	2	2	0		
TOTAL			57	42	25	98c									
PLANT DEFECT RATE		50ppm				98b									
						98a									

98

99

FIG. 15

80

PLANT EVALUATION EVALUATION RESULTS OUTPUT X

71 NAME OF EVALUATED PLANT PRODUCTION PLANT X

99 (1) PLANT DEFECT RATE 50 (ppm)

84 (2) PLANT ANALYSIS RESULTS 1
 EVALUATION CATEGORY (SCORE)

PLANT IMPROVEMENT ADVICE
 (COMMENT)

85 ① WORKERS 86 70 * INADEQUATE EDUCATION AND TRAINING

② EQUIPMENT 50 * MAJOR EQUIPMENT RELIABILITY ISSUES

⑤ MANAGEMENT 70 * CREATE OPERATION STANDARDS.
PROBLEMS IN SOME PROCESSES ONLY.

88 (3) PLANT ANALYSIS RESULTS 2 (PLANT IMPROVEMENT ADVICE)

88a
88b
88c

NO.	IMPROVEMENT AREA	SHORT-TERM MEASURES	LONG-TERM MEASURES
1	OPERATIONS INSTRUCTIONS	CREATE OPERATION STANDARDS FOR ALL PROCESSES AND PROVIDE PROPER INSTRUCTION	MAINTAIN OPERATION STANDARDS CONSISTENTLY

FIG. 16

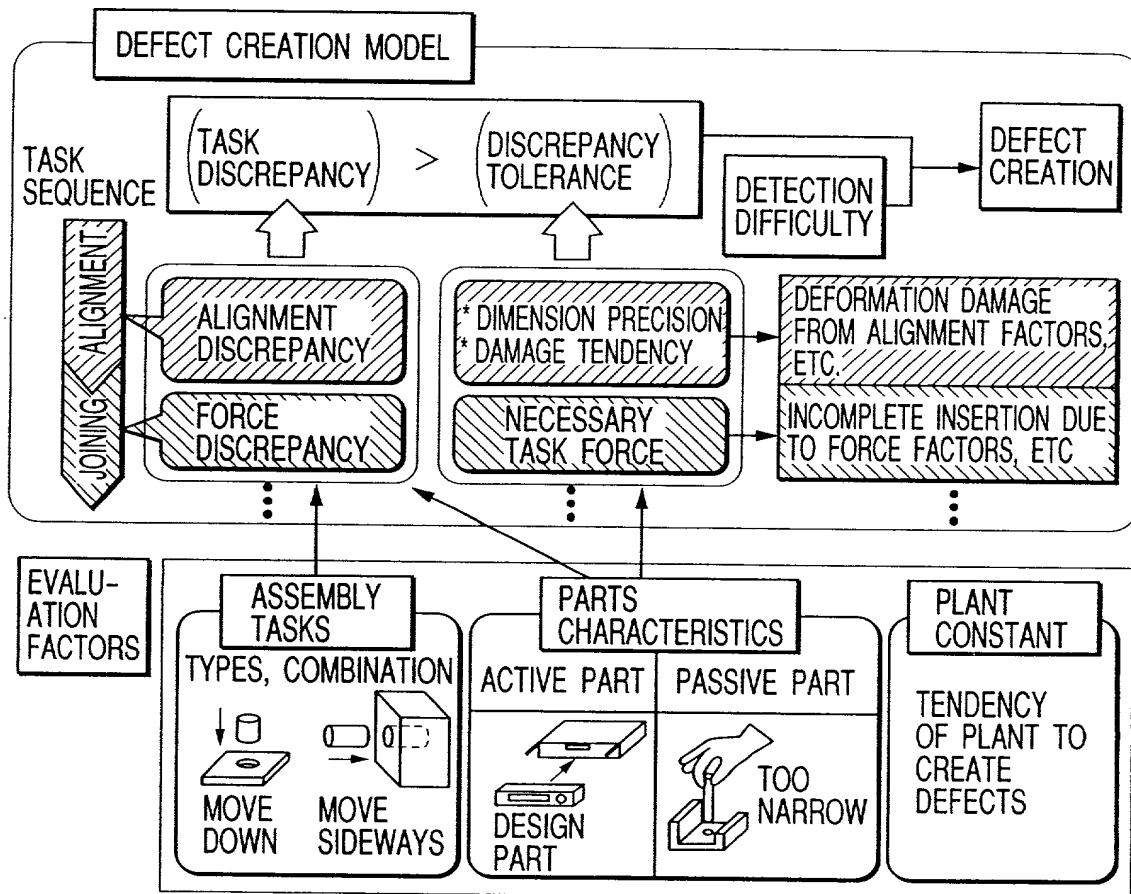


FIG. 17

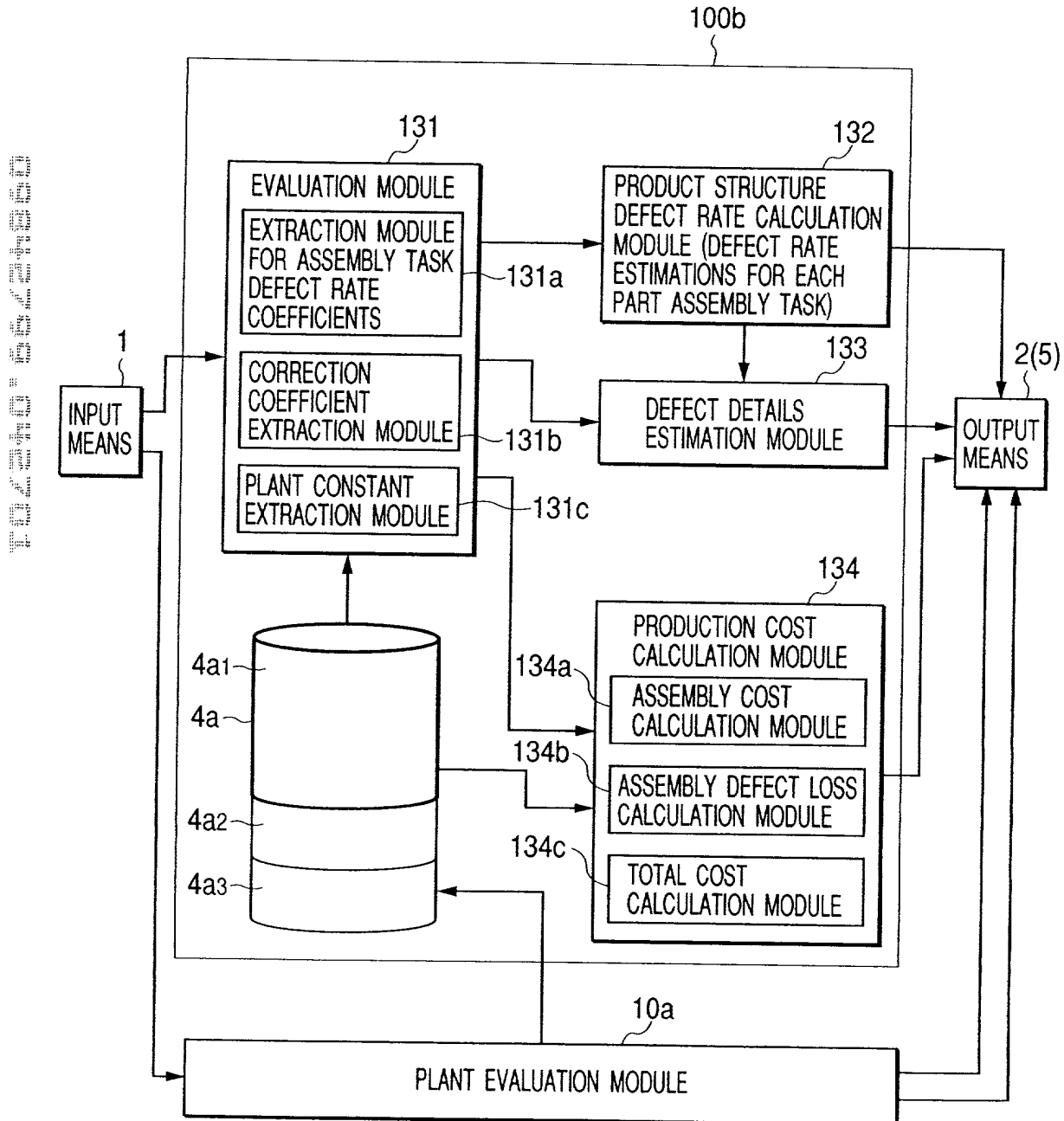


FIG. 18

SAMPLE INPUT SCREEN (PRODUCT SPECIFICATION INPUT SCREEN) FROM QUALITY
CALCULATION PROGRAM (PRODUCT STRUCTURE EVALUATION CALCULATION PROGRAM)

ASSEMBLY SYSTEM ENTER PRODUCT ATTRIBUTES	
PRODUCT NAME	VCR: A-100
PRODUCT NUMBER	P53001
FIGURE NUMBER	
PRODUCT TYPE	ASSEMBLY
QUANTITY (g)	4500
UNIT PRICE	
PRODUCT DIMENSION (mm)	
(W) MAX	450
(D)	300
(H)	70
ASSEMBLY PLANT	
REFERENCE TIME TOI	
ASSEMBLY PLANT DIVISIONS	
ASSEMBLY TIME	
ASSEMBLY PLANT DEFECT RATE	
DEFECT WARNING LINE	
PLANT LOCATION	
PRODUCTION UNITS (qty)	
PRODUCTION START DATE	
PRODUCTION END DATE	
(FOR CALCULATING REFERENCE DEFECT RATES)	
(ppm)	
(ppm)	
(FOR CALCULATING REFERENCE DEFECT RATES)	
DONE	

FIG. 19

SAMPLE INPUT SCREEN (PART SPECIFICATION INPUT SCREEN) FROM QUALITY
CALCULATION PROGRAM (PRODUCT STRUCTURE EVALUATION CALCULATION PROGRAM)

ASSEMBLY SYSTEM ENTER PART ATTRIBUTES																																									
PART NAME	<input type="text" value="FRAME ASSEMBLY 1"/>	<input type="checkbox"/>	NOT EVALUATED (AEM)																																						
PARTT NUMBER	<input type="text"/>	<input type="checkbox"/>	NOT EVALUATED (AREM)																																						
FIG. NUMBER	<input type="text"/>	<input type="checkbox"/>	TIGHTENING FLAG																																						
NUMBER OF IDENTICAL PARTS	<input type="text" value="1"/> <input type="button" value="▲"/> <input type="button" value="▼"/>	(SKIP=1)	<input type="checkbox"/>	THREADED FLAG																																					
UNIT PRICE	<input type="text"/>	PART TYPE	<input type="text"/>	(USE FOR CLASSIFICATION)																																					
MAX LENGTH OF PART (mm)	<input type="text" value="450,000"/>	QTY (g)	<input type="text" value="500"/>																																						
NOTES	<input type="text"/>																																								
<input type="checkbox"/> USER-DEFINED FLAG 1 <input type="checkbox"/> USER-SET FLAG 2 <input type="checkbox"/> USER-SET FLAG 3																																									
ASSEMBLY LEVEL	<input type="text"/>	PARENT PART NAME	<input type="text" value="NEW PRODUCT"/>																																						
ASSEMBLY PLANT REFERENCE TIME TOI	<input type="text"/>	(ENTER ONLY IF DIFFERENT FROM PRODUCT ATTRIBUTE)																																							
ASSEMBLY PLANT DIVISIONS	<input type="text"/>	(ENTER ONLY IF DIFFERENT FROM PRODUCT ATTRIBUTE)																																							
ASSEMBLY TIME	<input type="text"/>																																								
ASSEMBLY PLANT DEFECT RATE (ppm)	<input type="text"/>	(ENTER ONLY IF DIFFERENT FROM PRODUCT ATTRIBUTE)																																							
ACTUAL DEFECT COUNT	<input type="text"/>	(FOR CALCULATING REFERENCE DEFECT RATES)																																							
<input type="checkbox"/> #1 NO-TOUCH SURFACE (ACTIVE PART) <input type="checkbox"/> #2 NO-TOUCH SURFACE (PASSIVE PART) <input type="checkbox"/> TASKS NOT CONFIRMED																																									
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 16.6%;">BASIC ELEMENT</th> <th style="width: 16.6%;">CORRECTIVE ELEMENT</th> <th style="width: 8.3%;">REPEAT COUNT</th> <th style="width: 8.3%;">REFERENCE TIME RATIO</th> <th style="width: 16.6%;"></th> <th style="width: 16.6%;"></th> </tr> </thead> <tbody> <tr><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> <tr><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> <tr><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> <tr><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> <tr><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td><td><input type="text"/></td></tr> </tbody> </table>						BASIC ELEMENT	CORRECTIVE ELEMENT	REPEAT COUNT	REFERENCE TIME RATIO			<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
BASIC ELEMENT	CORRECTIVE ELEMENT	REPEAT COUNT	REFERENCE TIME RATIO																																						
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																				
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																				
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																				
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																				
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>																																				
<div style="display: flex; justify-content: space-between; padding: 5px;"> <input type="button" value="NEXT TASK"/> <input type="button" value="PREV TASK"/> <input type="button" value="ENTER CORRECTION"/> <input type="button" value="ADD TASK"/> <input type="button" value="DELETE TASK"/> <input type="button" value="DONE"/> </div>																																									

FIG. 20

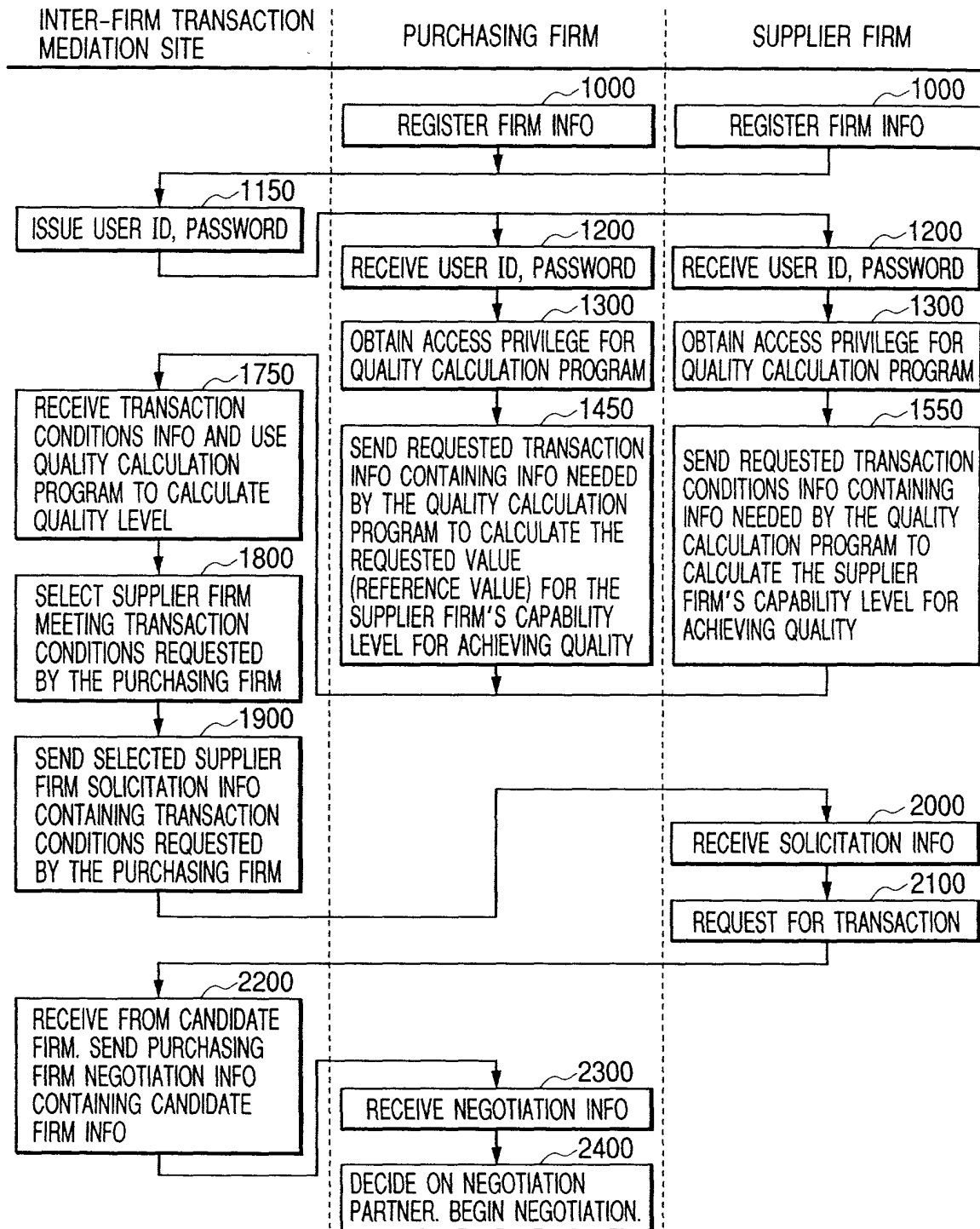


FIG. 21

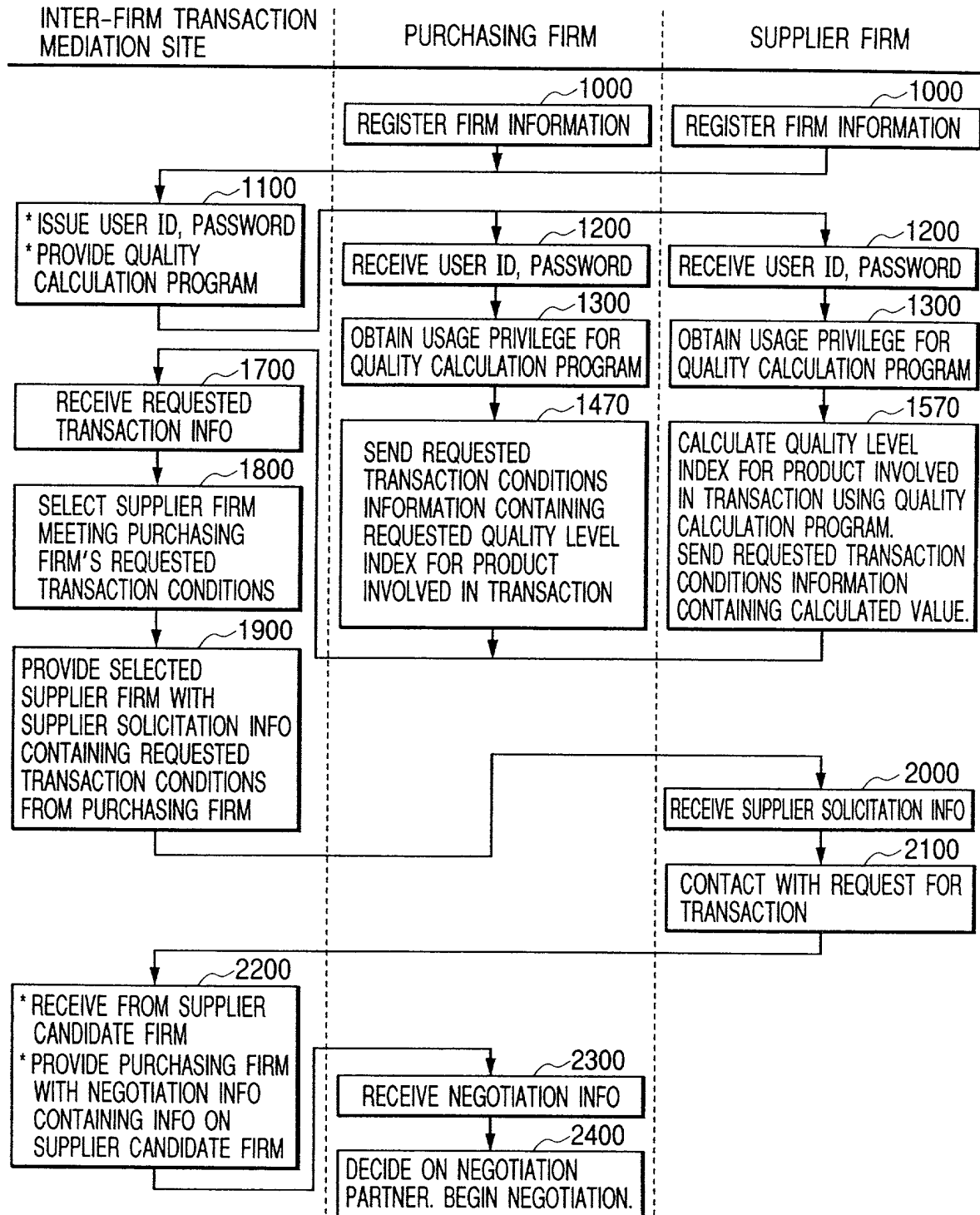


FIG. 22

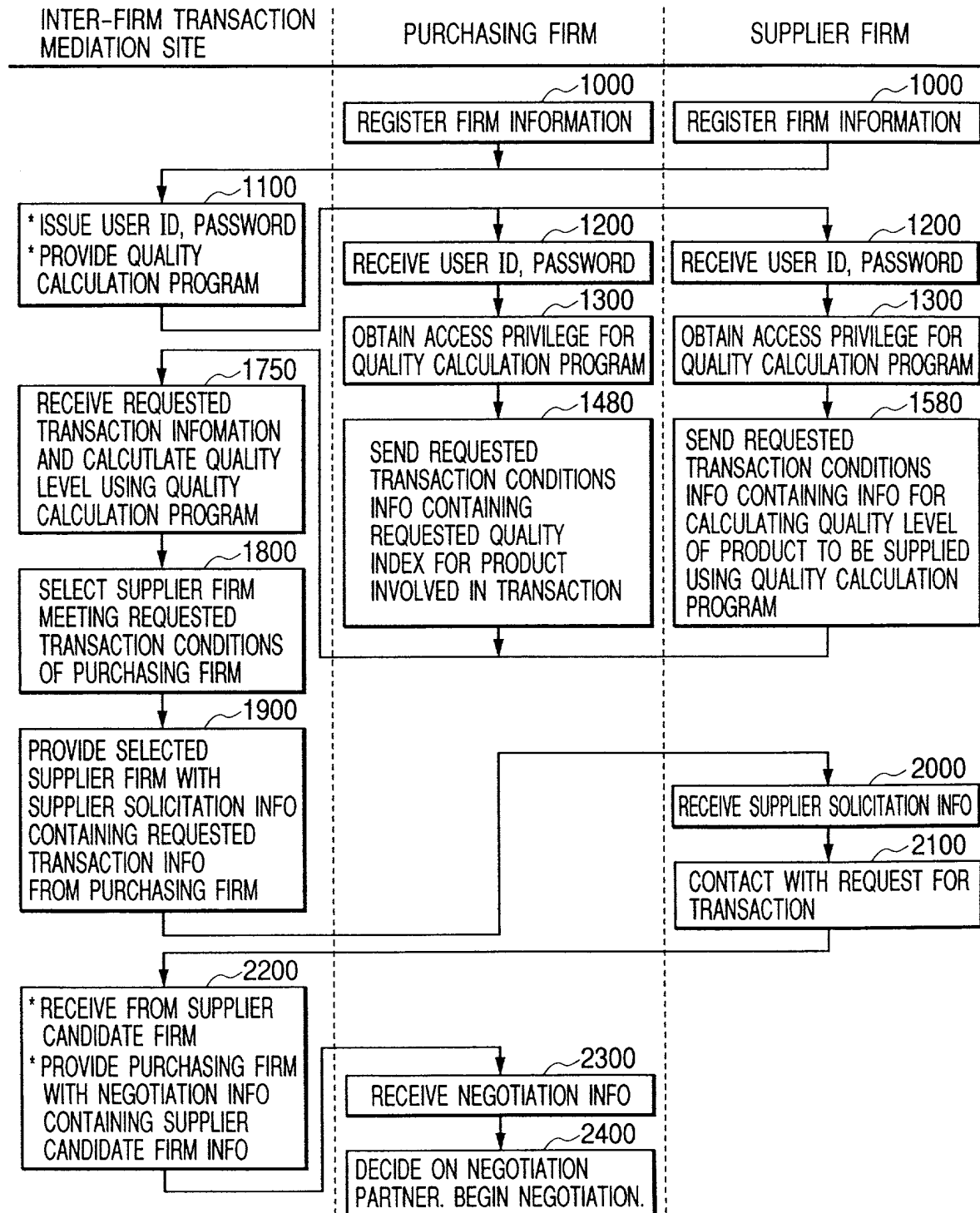


FIG. 23

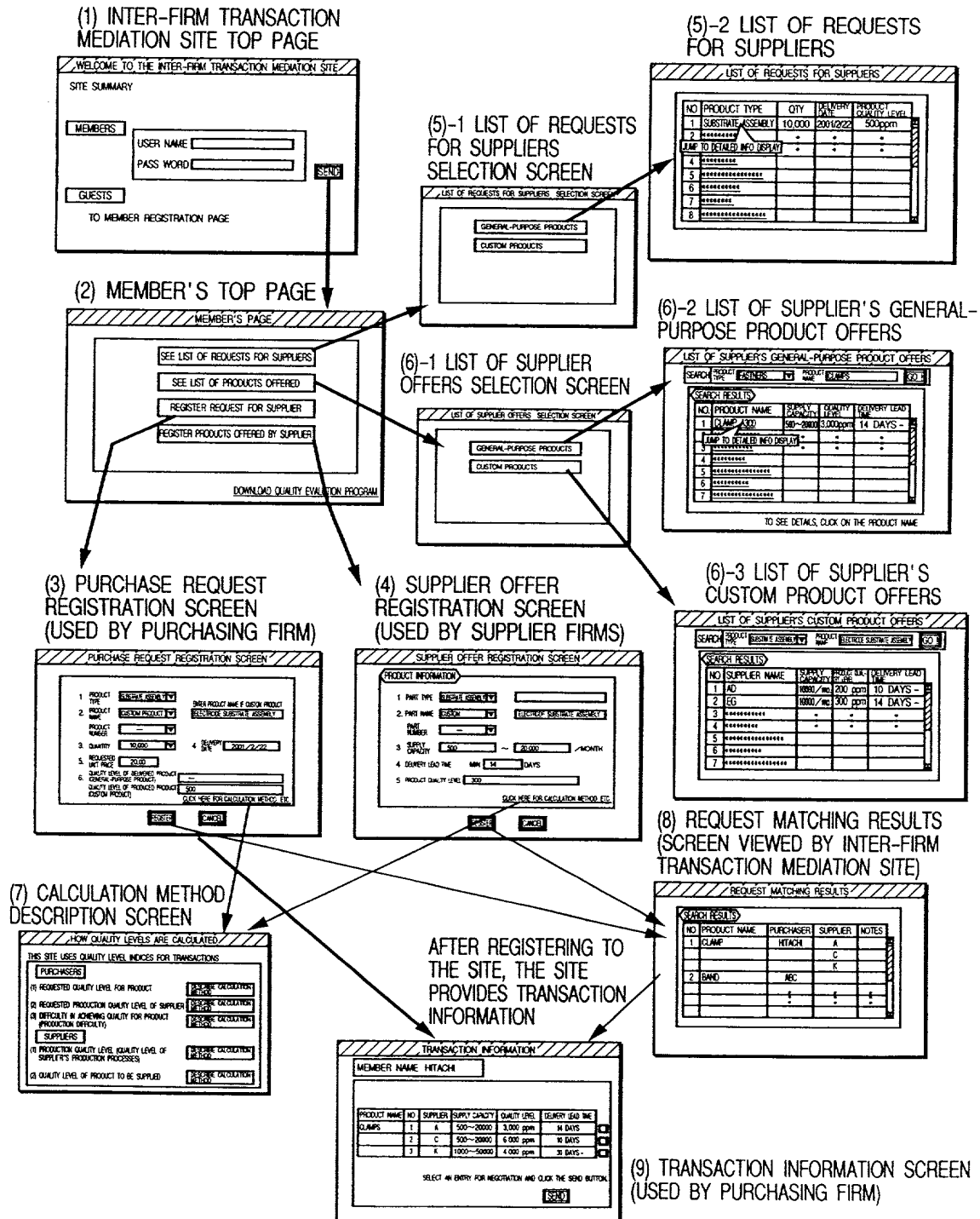


FIG. 24

(1) INTER-FIRM TRANSACTION MEDIATION SITE TOP PAGE

WELCOME TO THE INTER-FIRM TRANSACTION MEDIATION SITE

SITE SUMMARY

MEMBERS

GUESTS

USER NAME

PASS WORD

SEND

TO MEMBER REGISTRATION PAGE

FIG. 25

(2) INTER-FIRM TRANSACTION MEDIATION SITE MEMBER'S TOP PAGE

MEMBER'S PAGE

SEE LIST OF REQUESTS FOR SUPPLIERS

SEE LIST OF PRODUCTS OFFERED

REGISTER REQUEST FOR SUPPLIER

REGISTER PRODUCTS OFFERED BY SUPPLIER

DOWNLOAD QUALITY EVALUATION PROGRAM

FIG. 26

(3) INTER-FIRM TRANSACTION MEDIATION SITE
PURCHASE REQUEST REGISTRATION SCREEN
(USED BY PURCHASING FIRMS)

PURCHASE REQUEST REGISTRATION SCREEN	
1. PRODUCT TYPE	SUBSTRATE ASSEMBLY ▼
2. PRODUCT NAME	CUSTOM PRODUCT ▼
PRODUCT NUMBER	— ▼
3. QUANTITY	10,000 ▼
4. DELIVERY DATE	2001/2/22
5. REQUESTED UNIT PRICE	20.00
6. QUALITY LEVEL OF DELIVERED PRODUCT (GENERAL-PURPOSE PRODUCT)	—
QUALITY LEVEL OF PRODUCED PRODUCT (CUSTOM PRODUCT)	500
CLICK HERE FOR CALCULATION METHOD, ETC.	
<div>REGISTER</div> <div>CANCEL</div>	

FIG. 27

(4) INTER-FIRM TRANSACTION MEDIATION SITE
SUPPLIER OFFER REGISTRATION SCREEN
(USED BY SUPPLIER FIRMS)

SUPPLIER OFFER REGISTRATION SCREEN	
PRODUCT INFORMATION	
1. PART TYPE	SUBSTRATE ASSEMBLY ▼
2. PART NAME	CUSTOM ▼
PART NUMBER	— ▼
3. SUPPLY CAPACITY	500 ~ 20,000 /MONTH
4. DELIVERY LEAD TIME	MIN 14 DAYS
5. PRODUCT QUALITY LEVEL	300
CLICK HERE FOR CALCULATION METHOD, ETC.	
<div>REGISTER</div> <div>CANCEL</div>	

FIG. 28

(5)-1 LIST OF REQUESTS FOR SUPPLIERS SELECTION SCREEN

LIST OF REQUESTS FOR SUPPLIERS SELECTION SCREEN

GENERAL-PURPOSE PRODUCTS

CUSTOM PRODUCTS

FIG. 29

(5)-2 LIST OF REQUESTS FOR SUPPLIERS

LIST OF REQUESTS FOR SUPPLIERS				
NO.	PRODUCT TYPE	QTY	DELIVERY DATE	PRODUCT QUALITY LEVEL
1	SUBSTRATE ASSEMBLY	10,000	2001/2/22	500ppm
2	*****	⋮	⋮	⋮
JUMP TO DETAILED INFO DISPLAY		⋮	⋮	⋮
4	*****			
5	*****			
6	*****			
7	*****			
8	*****			

FIG. 30

(6)-1 LIST OF SUPPLIER OFFERS SELECTION SCREEN

LIST OF SUPPLIER OFFERS SELECTION SCREEN

GENERAL-PURPOSE PRODUCTS

CUSTOM PRODUCTS

FIG. 31

(6)-2 LIST OF SUPPLIER'S GENERAL-PURPOSE PRODUCT OFFERS

LIST OF SUPPLIER'S GENERAL-PURPOSE PRODUCT OFFERS

SEARCH

PRODUCT TYPE FASTNERS ▼

PRODUCT NAME CLAMPS

GO !!

SEARCH RESULTS

NO.	PRODUCT NAME	SUPPLY CAPACITY	QUALITY LEVEL	DELIVERY LEAD TIME
1	CLAMP A300	500~20000	3,000ppm	14 DAYS -
2	*****			
3	*****			
4	*****			
5	*****			
6	*****			
7	*****			

TO SEE DETAILS, CLICK ON THE PRODUCT NAME

FIG. 32

(6)-3 LIST OF SUPPLIER'S CUSTOM PRODUCT OFFERS

LIST OF SUPPLIER'S CUSTOM PRODUCT OFFERS				
SEARCH	PRODUCT TYPE	SUBSTRATE ASSEMBLY ▼	PRODUCT NAME	ELECTRODE SUBSTRATE ASSEMBLY
[GO !]				
SEARCH RESULTS				
NO.	SUPPLIER NAME	SUPPLY CAPACITY	PRODUCT QUALITY LEVEL	DELIVERY LEAD TIME
1	AD	10000/mo.	200 ppm	10 DAYS -
2	EG	10000/mo.	300 ppm	14 DAYS -
3	*****	⋮	⋮	⋮
4	*****	⋮	⋮	⋮
5	*****			
6	*****			
7	*****			

FIG. 33

(7) CALCULATION METHOD DESCRIPTION SCREEN

HOW QUALITY LEVELS ARE CALCULATED	
THIS SITE USES QUALITY LEVEL INDICES FOR TRANSACTIONS	
PURCHASERS	
(1) REQUESTED QUALITY LEVEL FOR PRODUCT	DESCRIBE CALCULATION METHOD
(2) REQUESTED PRODUCTION QUALITY LEVEL OF SUPPLIER	DESCRIBE CALCULATION METHOD
(3) DIFFICULTY IN ACHIEVING QUALITY FOR PRODUCT (PRODUCTION DIFFICULTY)	DESCRIBE CALCULATION METHOD
SUPPLIERS	
(1) PRODUCTION QUALITY LEVEL (QUALITY LEVEL OF SUPPLIER'S PRODUCTION PROCESSES)	DESCRIBE CALCULATION METHOD
(2) QUALITY LEVEL OF PRODUCT TO BE SUPPLIED	DESCRIBE CALCULATION METHOD

FIG. 34

(8) REQUEST MATCHING RESULTS

REQUEST MATCHING RESULTS

SEARCH RESULTS

NO.	PRODUCT NAME	PURCHASER	SUPPLIER	NOTES
1	CLAMP	HITACHI	A	
			C	
			K	
2	BAND	ABC		
		⋮	⋮	⋮

FIG. 35

TRANSACTION INFORMATION SCREEN

TRANSACTION INFORMATION

MEMBER NAME: HITACHI

PRODUCT NAME	NO.	SUPPLIER	SUPPLY CAPACITY	QUALITY LEVEL	DELIVERY LEAD TIME	
CLAMPS	1	A	500~20000	3,000 ppm	14 DAYS -	<input type="checkbox"/>
	2	C	500~20000	6,000 ppm	10 DAYS -	<input type="checkbox"/>
	3	K	1000~50000	4,000 ppm	30 DAYS -	<input type="checkbox"/>

SELECT AN ENTRY FOR NEGOTIATION AND CLICK THE SEND BUTTON.

SEND

FIG. 36

FLOW OF OPERATIONS BEFORE TRANSACTION STARTS
(WHEN ESTIMATES ARE POSTED BY PURCHASING FIRM)

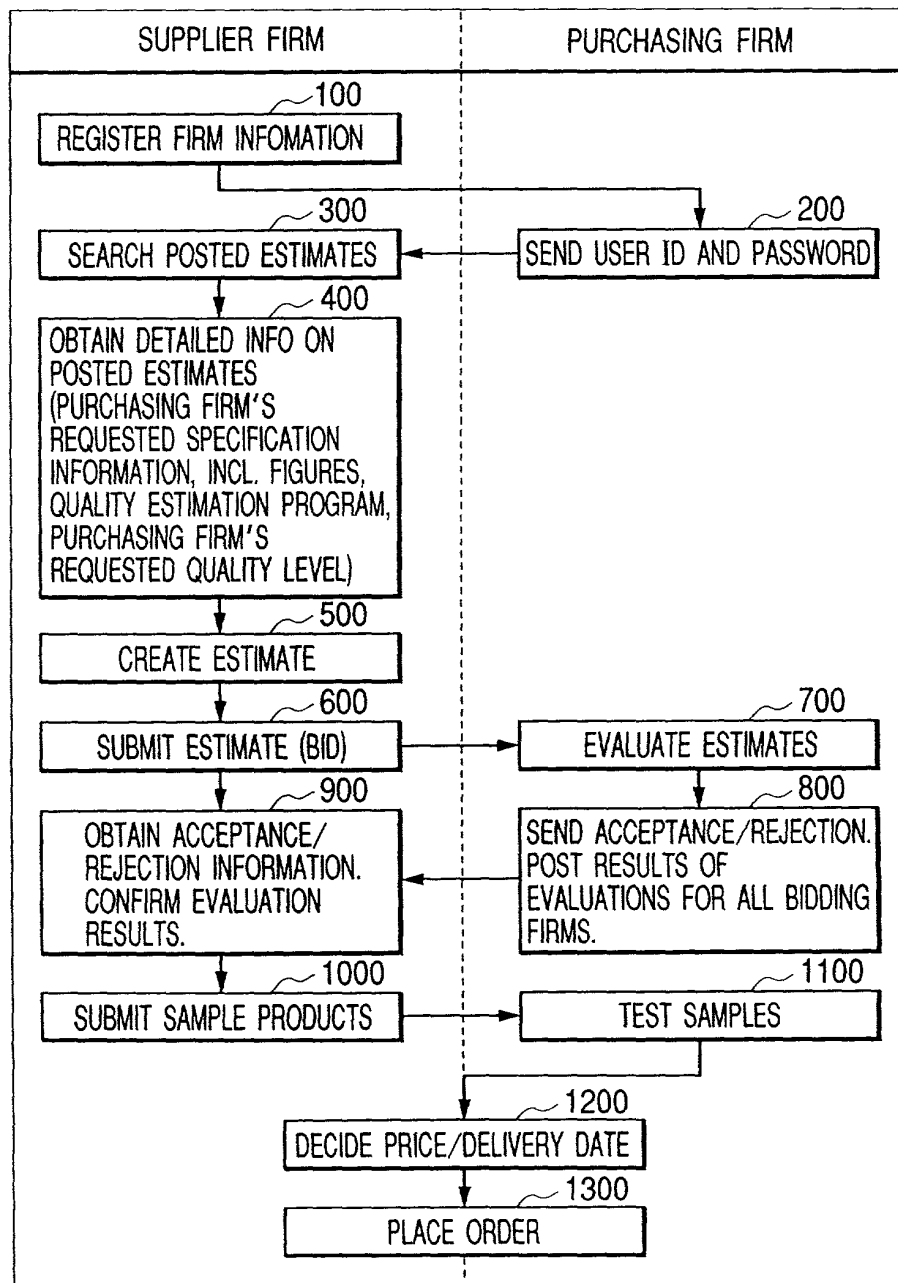


FIG. 37

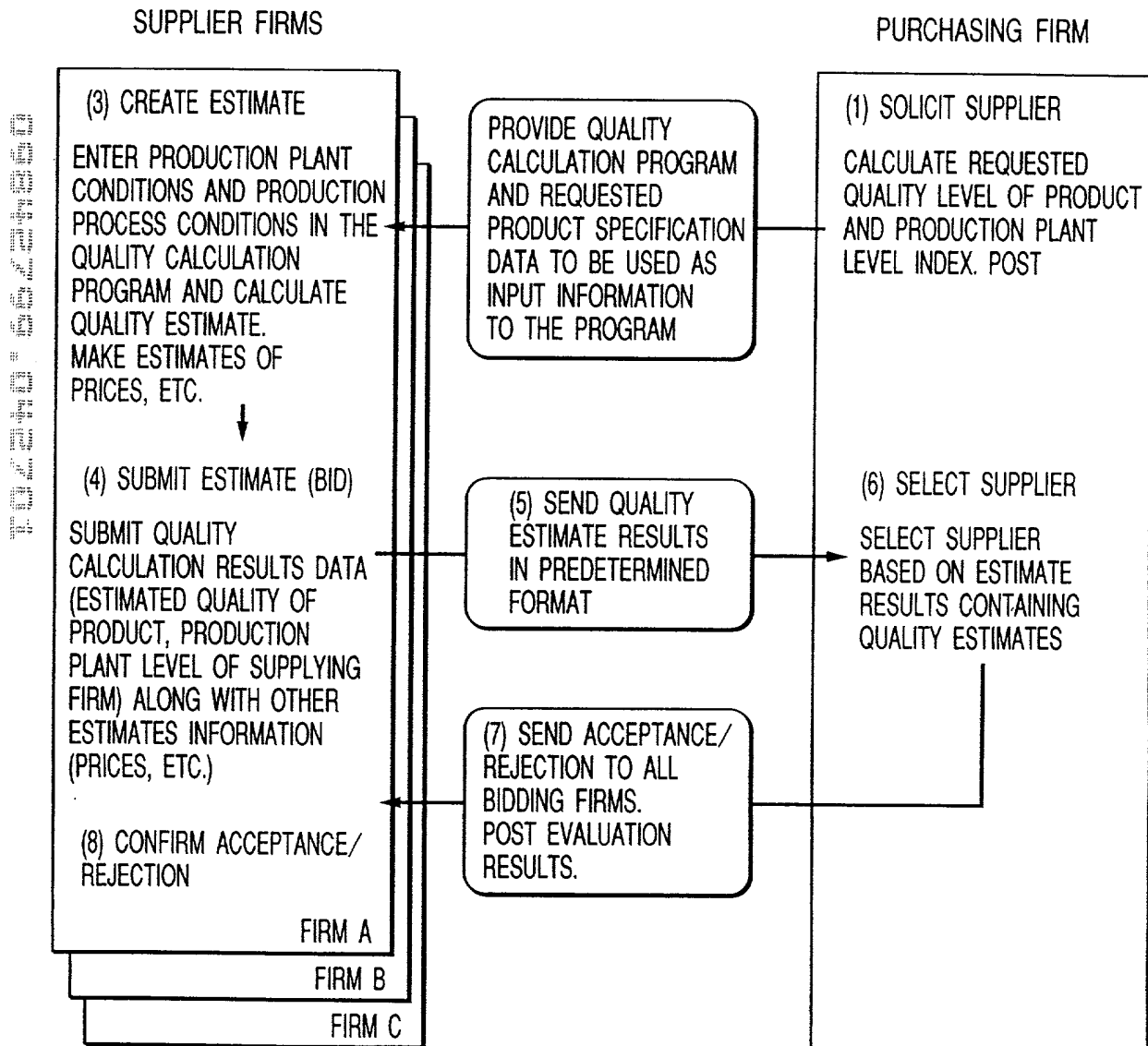


FIG. 38

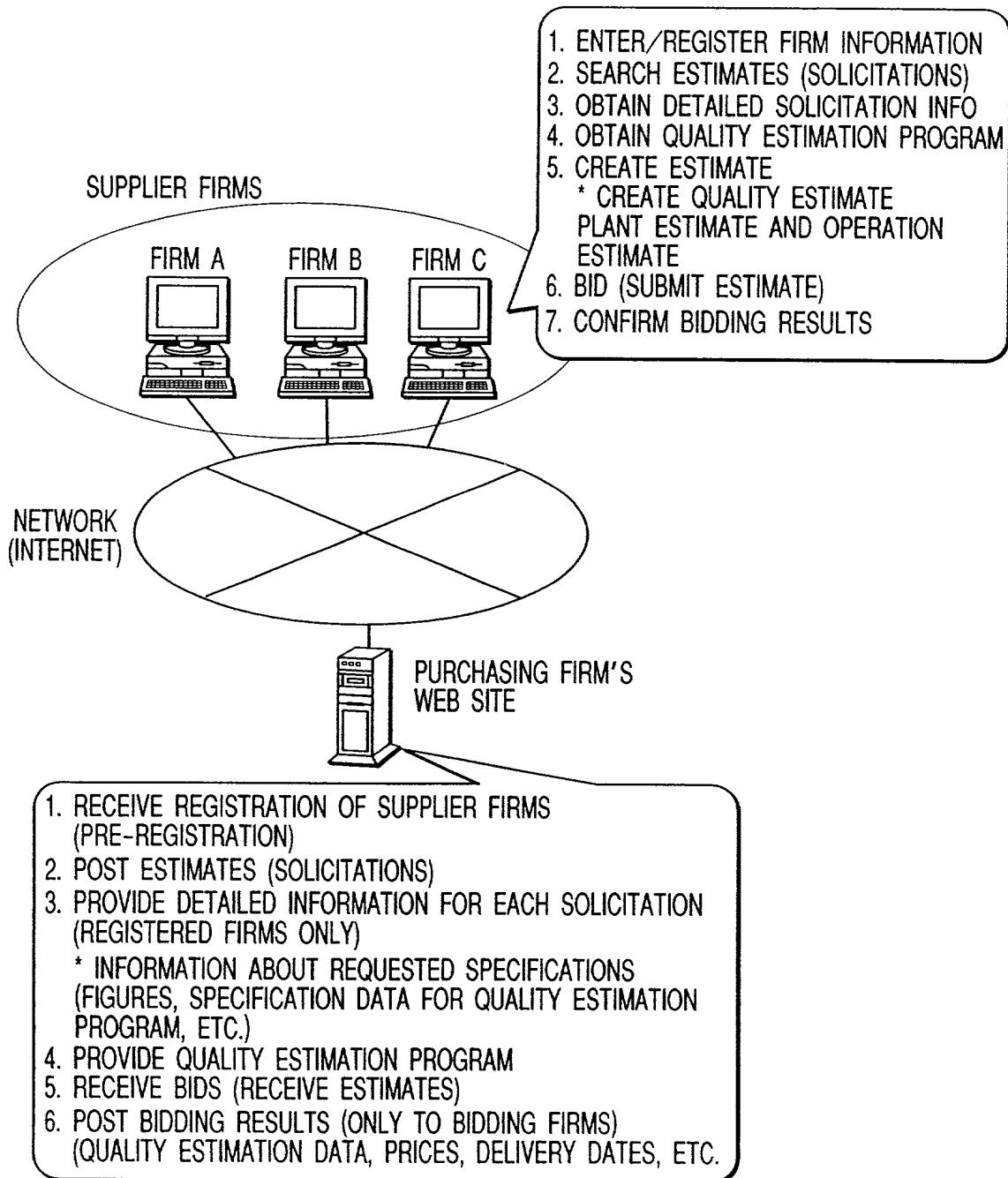


FIG. 39

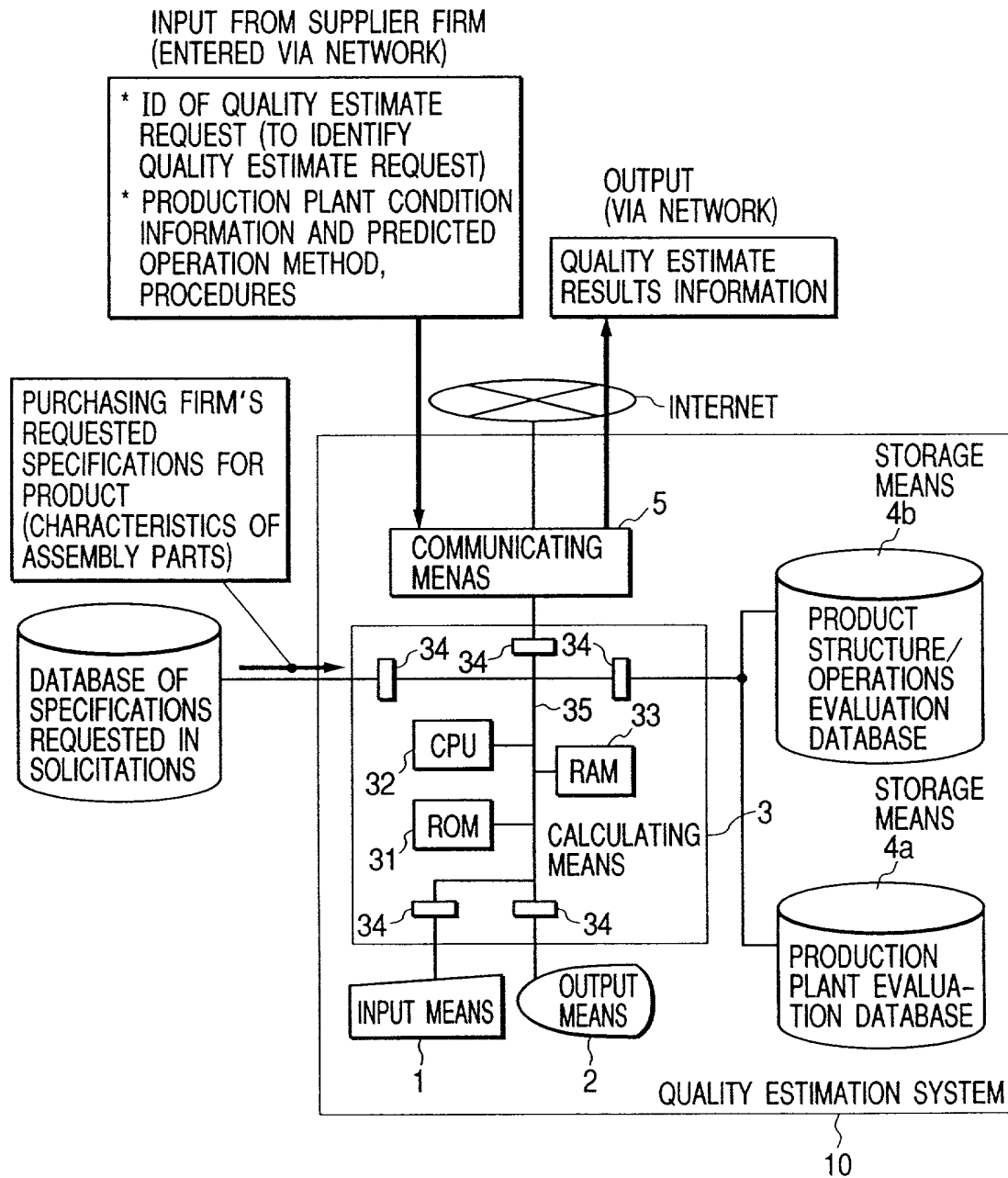


FIG. 40

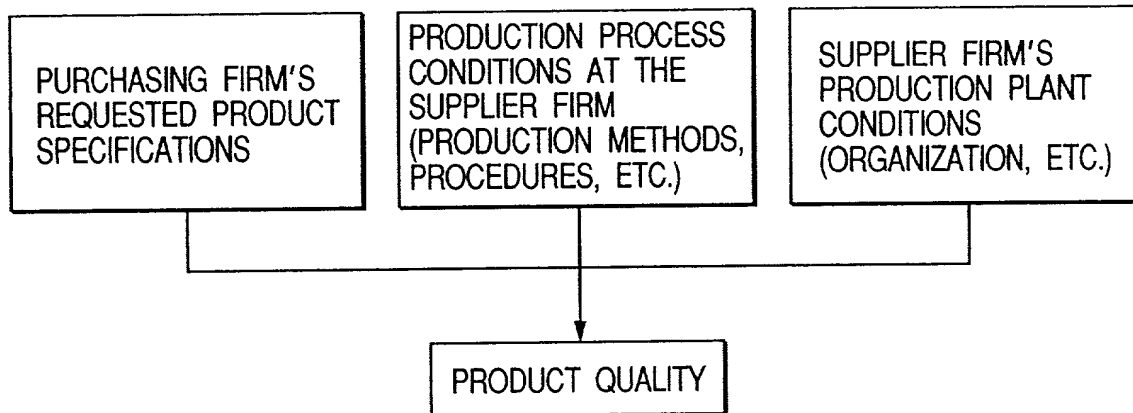


FIG. 41

WELCOME TO THE QUALITY ESTIMATION PAGE

1. SELECT SOLICITATION TO ESTIMATE

PURCHASE ITEM TYPE PURCHASE OPERATION DIVISION

THE SOLICITATION ENTRIES MATCHING THE SELECTIONS ARE DISPLAYED BELOW.
 CLICK THE CHECKBOXES TO SELECT THE ENTRIES FOR WHICH TO PROVIDE AN ESTIMATE AND PRESS THE SEND BUTTON.
 THE QUALITY ESTIMATION PROGRAM (WITH THE REQUESTED PRODUCT SPECIFICATION DATA ENTERED) WILL BE DISPLAYED.

SELECT	PRODUCT NAME	ID	RESPONSE DEADLINE	PRODUCT STRUCTURE COEFFICIENTS (DIFFICULTY OF OPERATIONS IN STANDARD PROCESSES)	REQUESTED QUALITY LEVEL (DEFECT TENDENCY)		PRODUCTION PLANT LEVEL (DEFECT TENDENCY)
					PER OPERATION	ENTIRE PRODUCT	
<input checked="" type="checkbox"/>	LEVER MODULE	AR350	2000/7/15	200	100 max	2000	10
<input type="checkbox"/>	PIPE MODULE	SB400D	2000/7/30	250	80 max	3000	12.5